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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,848	12/16/2003	Joost Jeroen Ottens	081468-0307228	3182
909	7590	04/27/2005	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			NGUYEN, HUNG	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2851	
DATE MAILED: 04/27/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/735,848	Applicant(s) OTTENS ET AL. 	
	Examiner Hung Henry V. Nguyen	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Prosecution Status

1. This office action is non-final rejection since the Examiner has changed the art and advanced new arguments.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 11-12 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Kellerman et al (US 2005/0041364 A1).

With respect to claims 11-12, Kellerman et al (figures 2) discloses an article support structure for use in a lithographic apparatus (see section [0050]) and comprising all of the structures set forth in the instant claims such as: a plurality of supporting protrusions (140) defining a support zone and providing a plane of support to support an article (105) and a backfill gas feed constructed and arranged in the support zone to provide a flow of backfill gas to a backside of the article (105) when supported by the plurality of supporting protrusions, to provide an improved thermal conduction between the article and the article support structure and support zone being surrounded by a boundary having a reduced height relative to the plane of support so that the flow of backfill gas is permitted to exit the support zone (see abstract, section [0012]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Empel et al (EP 0947884) in view of Kellerman et al (US 2005/0041364 A1).

With respect to claims 1-13, Van Empel et al discloses a lithographic apparatus comprising: an illumination system for providing a beam of radiation (7); an article support structure (17) constructed to support the article (19, or 29) and placed onto the optical path of the beam of radiation; the article support structure having a plurality of supporting protrusions (6) and defining a support zone to provide a plane of support; and a wall (8) connected to a vacuum pump; the support zone is surrounded by a boundary having a reduced height relative to the plane of support (see figure 2). Van Empel discloses the article (19) is substantially flat and the plane of support (17) is substantially flat (see figure 1) and further teaches the wall having a reduced height relative to the plane of support (6) in order to accommodate the flow of heat transfer gas underneath the article and to provide an improved thermal conduction between the article and article support structure (see figure 2) and the gap between a top of the wall and the plane of support having a height of more than 50nm (see col.5, lines 57 thru col.6, line 1). Van Empel does not expressly disclose a backfill gas feed arranged in the support zone to provide a backfill gas flowing to the backside of the article. As discussed above, Kellerman et al discloses an electrostatic chuck with an electrostatic clamp for holding an article on the article support

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structure and the electrostatic chuck includes a backfill gas feed arranged in the support zone of an article support for providing a backfill gas to a backside of the article when supported by the article support structure (see figure 2). It would have been obvious to one having ordinary skill in the art to combine the teaching of Van Empel et al and Kellerman et al to obtain the invention as specified in the claims of the present invention. It would have been obvious to a skilled artisan to employ a backfill gas feed as taught by Kellerman into the lithographic apparatus of Van Empel et al for the purpose of controlling the temperature of the article and preventing thermal expansion of the article whereby the throughput of the lithographic apparatus is improved.

Prior Art Made of Record

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsuruta et al (U.S.Pat. 6,608,745) teaches an electrostatic chuck having a backfill gas feed.

Response to Amendment

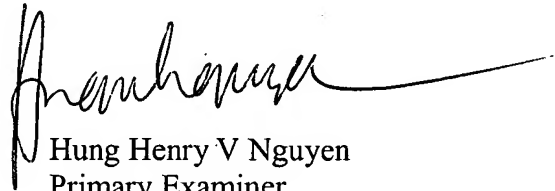
7. Applicant's amendments filed 2/23/2005 have been entered. In view of applicant's amendment and remarks, the objection to the drawing and the rejection of claim 5 under 35 U.S.C. 112, second paragraph are withdrawn. Turning to the prior art rejection, applicant's arguments have been carefully reviewed but have been traversed in view of new grounds of rejection as set forth above.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V. Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
3/18/05